
# NIST's Mission and University Partnerships

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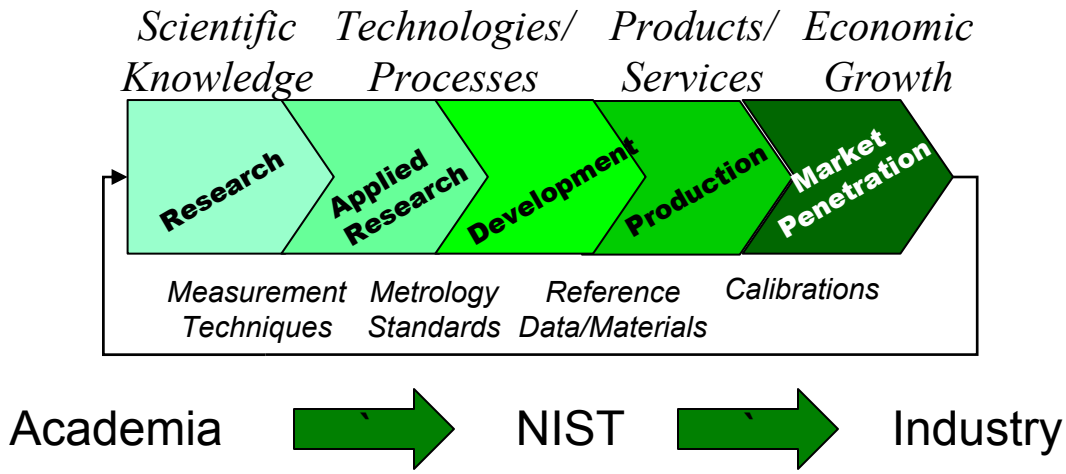
# Uniqueness of NIST Academic Partnerships

**NIST's mission** is *to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and improve the quality of life*.

**Because of its mission, NIST**:

- has industry focus
- links upstream researchers with downstream applications
- uses academic partnerships to ensure that NIST researchers are engaged with lead-edge research at universities"
- has a culture of openness and accessibility



# NIST / University Partnerships

- User facility
  - NCNR
    - CHRNS

- Joint Centers
  - JILA
  - CARB

- Partnership Issues

# NIST Center for Neutron Research (NCNR)


*NCNR is a premiere facility:*

- 2001 usage: 50 US Industrial labs, 115 US Universities, 34 US Government Labs
- 1700 researchers annually
- world's most cost-effective neutron source

*But there are challenges:*

- Improving interactions between diverse groups
- Creating Grand partnerships

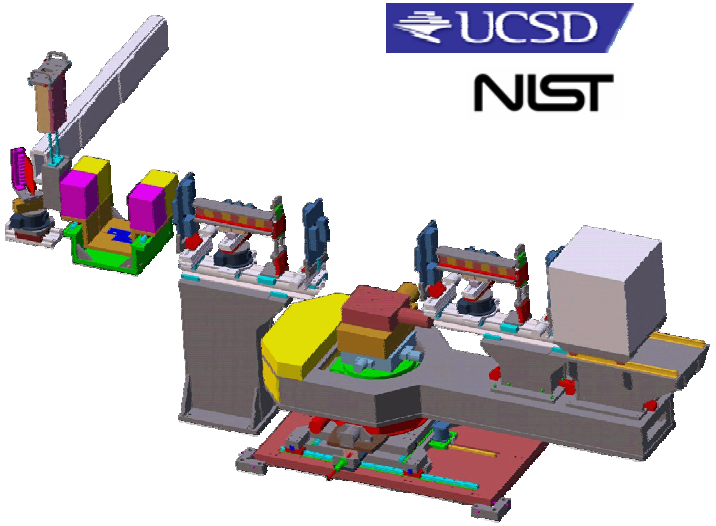
CNBT Cold Neutrons for Biology and Technology

National Center for Research Resources

**The CNBT project is a collaborative partnership to apply neutron scattering techniques to the study of membrane biology.**

UCIrvine University of California, Irvine
Duke
Penn
Rice University
Carnegie Mellon
Los Alamos National Laboratory
Johns Hopkins University
National Institutes of Health
National Institute on Alcohol Abuse and Alcoholism
UCSD
NIST

•$5.3M NIH funded project over 5 years
•Includes $1.3M direct funding to NIST for instrument development and operations costs;
•Includes over 6 project funded staff stationed at the NCNR:
- Project Director
- PI (20%)
- Instrument scientist
- Computer programmer
- Postdocs (3)
• Develops a dedicated neutron reflectometer
• Develops a dedicated biology support laboratory



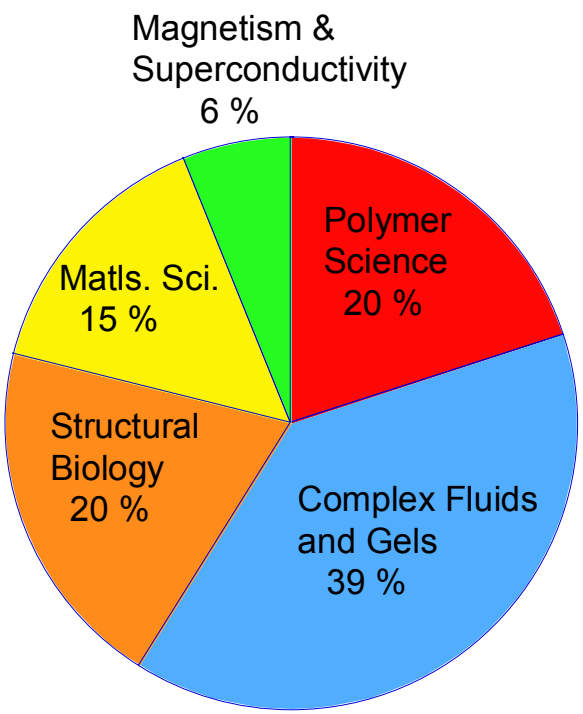
*Center for High Resolution Neutron Scattering (CHRNS):*

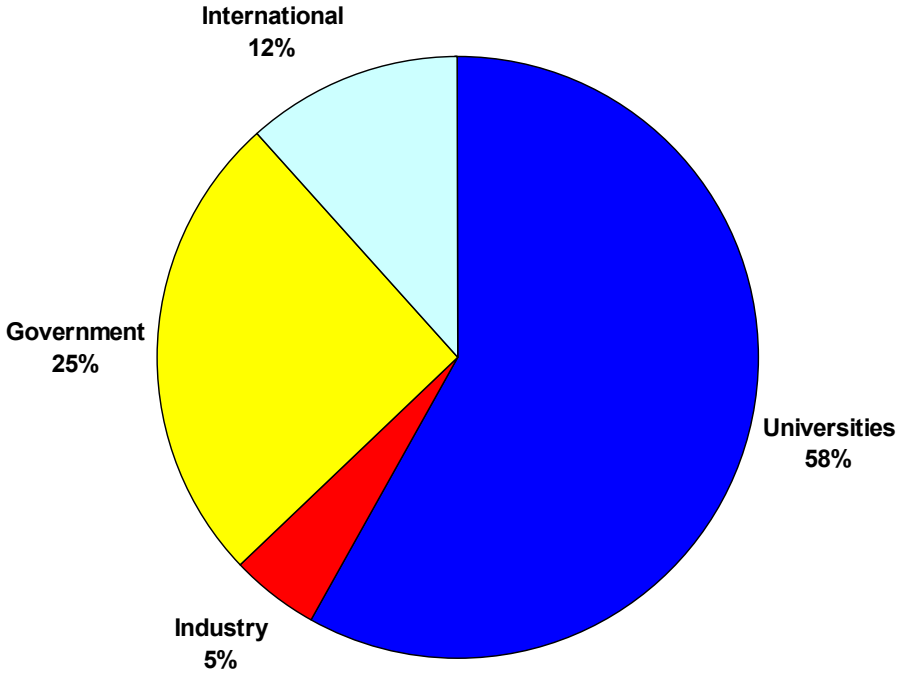
- "Center within a Center", an NSF/NIST Partnership
- Provides merit-based access based on independent peer review
- Provides robust user support for non-expert users
- Provides access to unique, world-class capability and multiple instruments

In FY02:

- 335 users
- 118 graduate student users
- 21 PhD theses completed
- 124 publications
- Annual summer school (30 participants)
- High school interactive tour program

*Center for High Resolution Neutron Scattering (CHRNS):*




*Office of Science and Technology Policy Interagency Working Group on Neutron Science: Report on the Status and Needs of Major Neutron Scattering Facilities in the United States,* June 2002, www.ostp.gov/html/neutron.pdf

# JILA

news feature

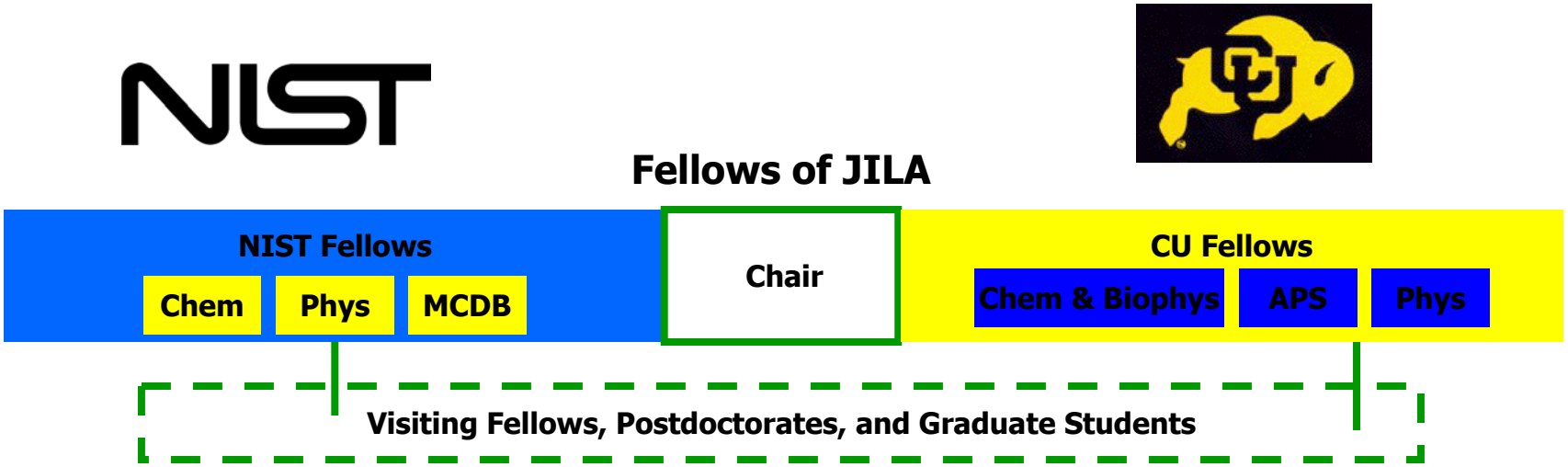
Rocky Mountain high

Beneath the peaks of Colorado nestles an unusual institute that leads the world in atomic physics. Peter Aldhous visits JILA, where a culture of sharing has underpinned Nobel success.

Atomic adventures

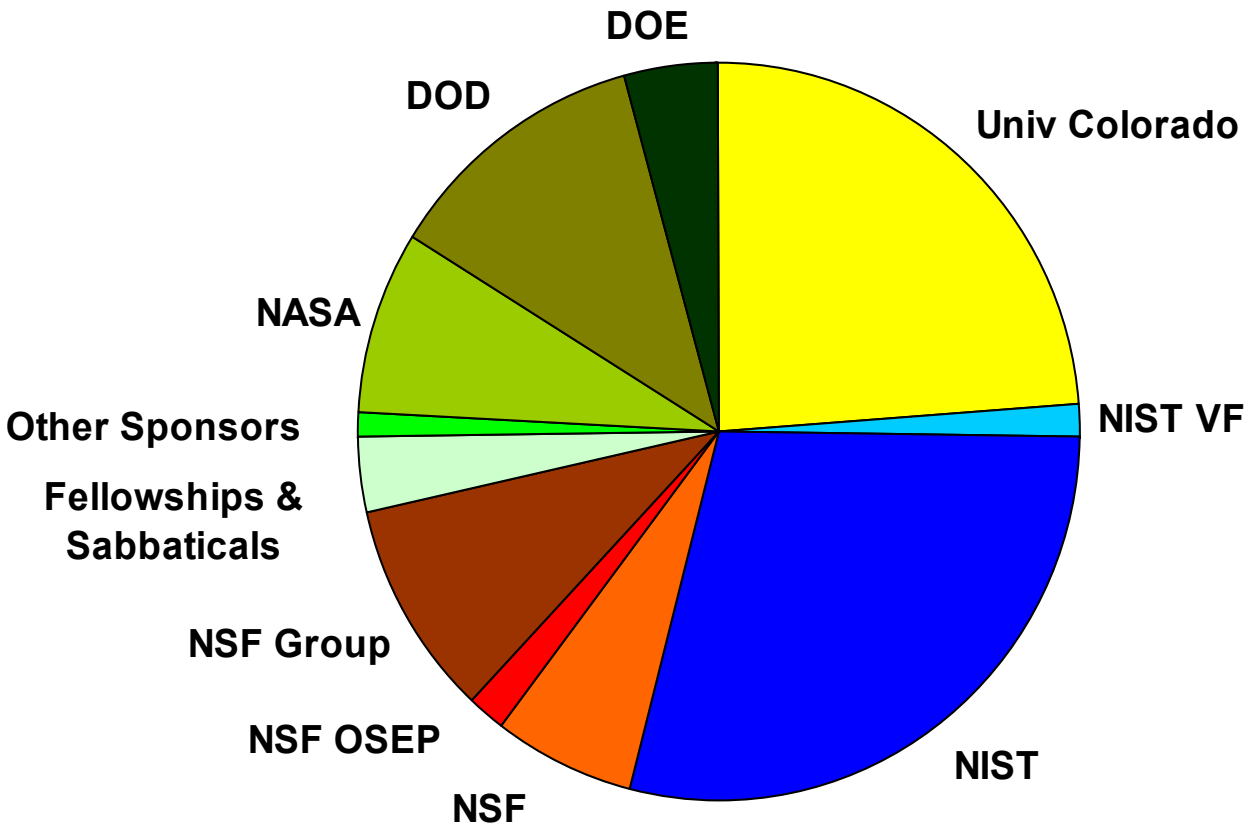
**JILA**
**NIST & University of Colorado**

# JILA


NIST
Fellows of JILA
NIST Fellows
Chem
Phys
MCDB
Chair
CU Fellows
Chem & Biophys
APS
Phys
Visiting Fellows, Postdoctorates, and Graduate Students

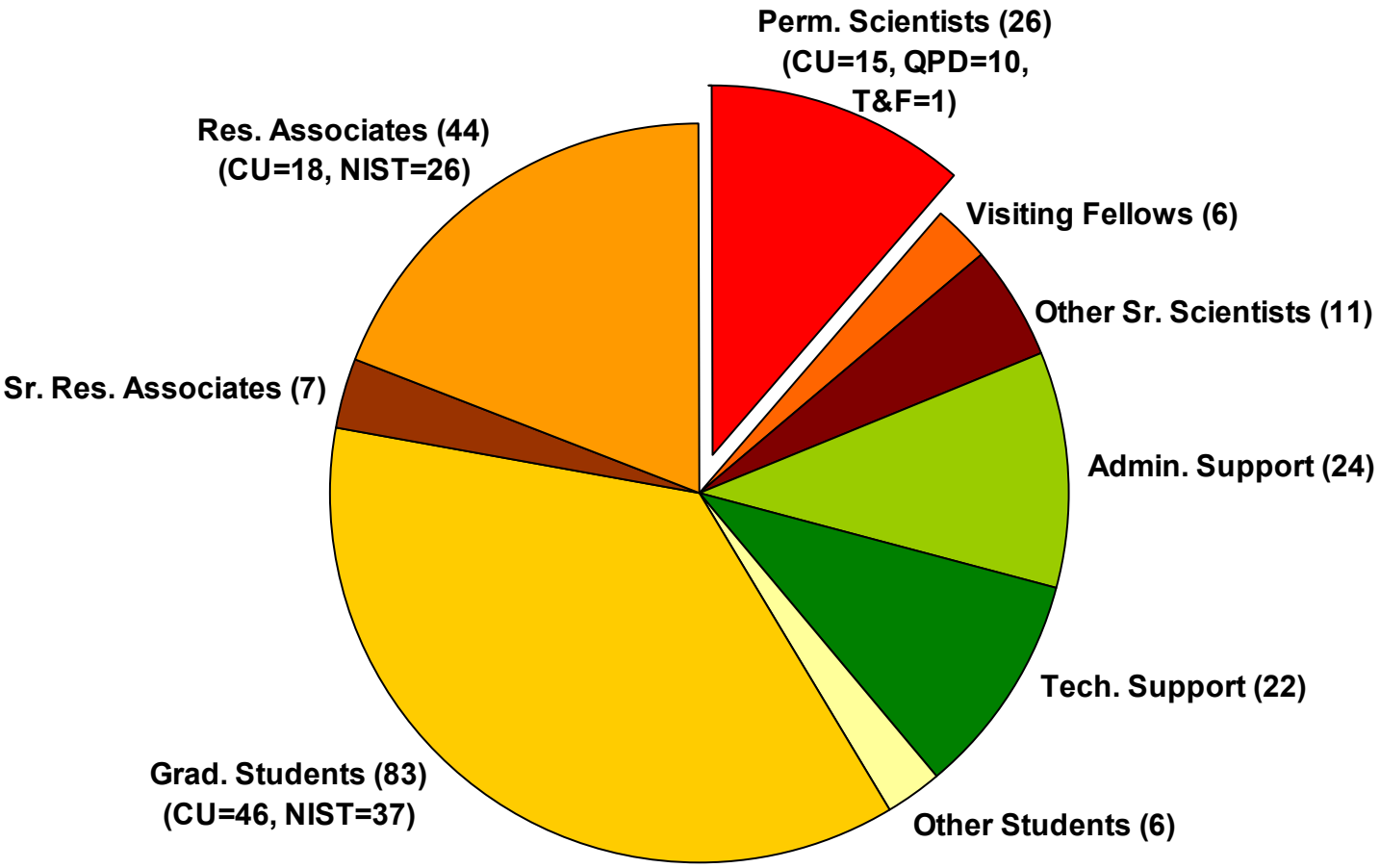
# JILA FUNDING 2001-2002

**Total - $25,337,769**



# JILA STAFFING 2002

## Total FTE - 229



# Center for Advanced Research in Biotechnology

**Center for Advanced Research in Biotechnology (CARB)**

- **NIST, University of Maryland, State of Maryland**
- **located in premier location for biotechnology**

# Partnership Issues

- Intellectual Property
  - Problem: Traditional policy restrictive
  - Jeopardizes partnerships
  - Solution: “playground rules”
    - What I find is mine, what you find is yours, what we find is ours
- “Sensitive Information”
  - Emerging issue: Homeland Security
  - Restriction on dissemination of research results
    - publication subject to policy review
    - Issues regarding “academic freedom”
- Alignment of Interests
  - Finding the common ground
    - Amplifies resources for both parties
      - NIST’s ability to carry out its mission
      - Impact and efficiency of academic research
- Developing Partnerships
  - university partnerships need to be considered in strategic planning

# Lessons learned

- Mission focus
- Significant buy-in and financial “risk” by both institutions.
- Credit for accomplishments must be shared.
- Expectations must be realistic.
- Stable, long-term funding.
- Constant striving for excellence.
- Area of partnership should be unique and of national importance.
- Ensure that there is a true collaboration.
- Make sure that each institute offers something that the other could not possibly obtain on its own.